401 KAR 47:030. Environmental performance standards.

RELATES TO: KRS 224.01-010, 224.10-100, 224.10-105, 224.10-110, 224.40-100-224.40-650, 224.43-010-224.43-505, 224.70-100, 224.70-110, 224.99-010-224.99-030, 50 C.F.R. Part 424

STATUTORY AUTHORITY: KRS 224.10-100, 224.10-105, 224.40-100, 224.40-305, 224.43-340

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(19) and (24) and 224.10-105 require the Natural Resources and Environmental Protection Cabinet to promulgate administrative regulations concerning waste management. KRS 224.40-305 and 224.40-100 require the cabinet to promulgate administrative regulations establishing requirements for obtaining a permit to use a waste site or facility and response actions to close and reclaim or upgrade open dumps. KRS 224.43-340 requires the cabinet to promulgate administrative regulations establishing requirements for the reduction and management of solid waste. This administrative regulation establishes the minimum environmental standards with which all solid waste sites or facilities shall comply.

Section 1. Purpose, Scope and Applicability. The standards in this administrative regulation shall be for use under the waste management provisions of KRS Chapter 224 in determining which solid waste sites or facilities pose a reasonable probability of adverse effects on human health or the environment. Solid waste sites or facilities failing to satisfy the requirements of this administrative regulation shall be considered open dumps which are prohibited by KRS 224.40-100. An owner or operator shall not cause, suffer, or allow a solid waste site or facility or any unit of a solid waste site or facility to violate any provision of this administrative regulation.

Section 2. Flood Plains. A solid waste site or facility shall not restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the flood plain, or be placed in a manner likely to result in washout of waste, so as to pose a hazard to human health, wildlife, or land or water resources.

Section 3. Endangered Species. A solid waste site or facility shall not:

(1) Cause or contribute to the taking of any endangered or threatened species or candidate species of the Endangered Species Act of 1973 as amended through January 1984, 16 U.S.C. 1531 to 1544, and 50 C.F.R. Part 424 as of October 1984; or

(2) Result in the destruction or adverse modification of the critical habitat of endangered or threatened species or candidate species as identified in the Endangered Species Act of 1973 as amended through January 1984, 16 U.S.C. 1531 to 1544, and 50 C.F.R. Part 424 as of October 1984.

Section 4. Surface Waters. A solid waste site or facility shall not:

(1) Cause a discharge of pollutants into waters of the Commonwealth, including wetlands, that violates any requirements of KRS Chapter 224, including but not limited to the Kentucky Pollutant Discharge Elimination System;

(2) Cause a discharge of dredged material or fill material to waters of the Commonwealth that is in violation of the requirements under Section 404 of the Clean Water Act as of February 4, 1987, 33 U.S.C. Section 1344; or

(3) Cause the release of nonpoint source pollution to waters of the Commonwealth, including wetlands, that violates any requirements of the Kentucky Nonpoint Source Pollution Program.

Section 5. Groundwater. A solid waste site or facility shall not contaminate an underground

drinking water source beyond the point of compliance in excess of the maximum contaminant levels contained in Section 6 of this administrative regulation.

Section 6. Maximum Groundwater Contaminant Levels. The maximum contaminant levels of this section shall be used in determining whether solid waste site or facility activities comply with the groundwater criteria of Section 5 of this administrative regulation. Only analytical methods for these contaminants that are approved by the cabinet shall be used. A solid waste site or facility shall not contaminate an underground drinking water source beyond the maximum contaminant levels established in this section.

(1) Maximum contaminant levels for inorganic chemicals. A solid waste site or facility shall not contaminate an underground drinking water source beyond the following maximum contaminant levels:

Contaminant	Maximum Level[1] (milligrams per liter)
Arsenic	0.05 mg/l
Barium	2.0 mg/l
Cadmium	0.005 mg/l
Chromium	0.1 mg/l
Lead	0.05 mg/l
Mercury	0.002 mg/l
Nitrate (as N)	10.0 mg/l
Selenium	0.05 mg/l
Silver	0.05 mg/l
Flouride	4.0 mg/L

[1]Metal criteria are total recoverable metals to be measured in an unfiltered sample.

(2) Maximum contaminant levels for organic chemicals. The following shall be the maximum contaminant levels for organic chemicals other than volatile synthetic organic chemicals:

(a) Chlorinated hydrocarbons:	Maximum Level
Endrin (1,2,3,4,10,10-Hexachloro-6,7-epoxy - 1,4,4a,5,6,7,8,8a-octahydro-1,4-endo-endo-5,8-dimethano-naphthalene)	0.002 mg/l
Lindane (1,2,3,4,5,6-Hexachlorocyclohex-ane, gamma isomer)	0.0002 mg/l
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxy-phenyl)ethane)	0.04 mg/l
Toxaphene ($C_{10}H_{10}C_{18}$-Technical chlorinated camphene, 67 to 69 percent chlorine)	0.003 mg/l
(b) Chlorophenoxys:	
2,4-D (2,4-	0.07 mg/l

Dichlorophenoxyacetic acid)	
2,4,5-TP Silvex (2,4,5-Trichlorophenoxy-propionic acid)	0.05 mg/l

(3) Maximum contaminant levels for radioactivity. The following shall be the maximum contaminant levels for radionuclides:

Radionuclides	Maximum Level
Gross alpha particles	15 picocuries per liter
Radium	5 picocuries per liter
Gross beta particles	50 picocuries per liter
Strontium 90	8 picocuries per liter
Tritium	20,000 picocuries per liter
Iodine 131	3 picocuries per liter

(4) Maximum contaminant levels for volatile synthetic organic chemicals. The following shall be the maximum contaminant levels for volatile synthetic organic chemicals:

Chemicals	Maximum Level (milligrams per liter)
Benzene	0.005
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.2
Vinyl chloride	0.002

(5) Maximum microbiological contaminant levels. The maximum contaminant level for coliform bacteria from any one (1) well shall be:

(a) Using the membrane filter technique:

1. Four (4) coliform bacteria per 100 milliliters if one (1) sample is taken; or

2. Four (4) coliform bacteria per 100 milliliters in more than one (1) sample of all the samples analyzed in one (1) month; or

(b) Using the five (5) tube most probable number procedure (the fermentation tube method) in accordance with the analytical procedures approved by the cabinet, and using a standard sample, each portion being one-fifth (1/5) of the sample:

1. If the standard portion is ten (10) milliliters, coliform in any five (5) consecutive samples from a well shall not be present in three (3) or more of the twenty-five (25) portions; or

2. If the standard portion is 100 milliliters, coliform in any five (5) consecutive samples from a well shall not be present in five (5) portions in any of five (5) samples or in more than fifteen (15) of the twenty-five (25) portions.

Section 7. Application to Land Use for the Production of Food Chain Crops. A solid waste site or facility shall not exist or occur which applies solid waste within three (3) feet of the surface of land used for the production of food chain crops unless in compliance with all the requirements of subsection (1) or (2) of this section:

(1)(a) The pH of the solid waste and soil mixture shall be six and five-tenths (6.5) or greater at the time of each solid waste application, except for solid waste containing cadmium at concentrations of two (2) mg/kg (dry weight) or less;

(b) The annual application of cadmium from solid waste shall not exceed 0.44 pounds per acre on land used for production of tobacco or food chain crops. The annual cadmium application rate shall not exceed 0.44 pounds per acre; and

(c) The maximum cumulative application of cadmium from the waste shall not exceed the levels in Table 1 of this paragraph.

Table 1
Maximum cumulative application

Soil Cation Exchange Capacity (meq/100g)	Back-ground Soil pH	Pounds/per/Acre
<5	≥6.5	4.46
5-15	≥6.5	8.92
>15	≥6.5	17.84
>15	<6.5*	4.46

*For soils with a background pH of less than six and five-tenths (6.5), the maximum cumulative cadmium applications rate for soils with a background pH equal to or greater than six and five-tenths (6.5) may be used if the pH of the sludge-soil mixture is adjusted to and maintained at six and five-tenths (6.5) or greater whenever food chain crops are grown.

(2) If animal feed is the only food chain crop produced, there shall not be limit to the cadmium application rate, as long as the pH of sludge and soil mixture is six and five-tenths (6.5) or greater at the time of sludge application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown. A plan shall also be developed which demonstrates how the animal feed shall be distributed to preclude human ingestion, and the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses. Future property owners shall also be notified by a stipulation in the land record or property deed which states that the property received sludge at high cadmium application rates and that food chain crops, except for animal feed, shall not be grown due to possible health hazards.

Section 8. Polychlorinated Biphenyls. A solid waste site or facility shall not exist or occur which places solid waste containing concentrations of polychlorinated biphenyls (PCBs) equal to or greater than one (1) mg/kg (dry weight) on the land. However, residual landfills may dispose of PCBs in accordance with their permit and contained landfills may dispose of solid wastes containing PCBs equal to forty-nine (49) mg/kg (dry weight) or less.

Section 9. Disease. (1) Disease vectors. A solid waste site or facility shall not exist or occur unless the on-site population of disease vectors is prevented or controlled through the periodic application of cover material or other techniques as appropriate to protect human health and the envi-

ronment.

(2) Sewage sludge and septic tank pumpings. A solid waste site or facility shall not exist or occur which applies sewage sludge or septic tank pumpings within three (3) feet of the surface of the land unless a method to reduce pathogens has been utilized.

Section 10. Air. (1) A solid waste site or facility shall not engage in open burning of solid waste or hazardous wastes. This requirement shall not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, land-clearing debris, diseased trees, debris from emergency cleanup operations, or ordnance.

(2) A solid waste site or facility shall not violate applicable air pollution requirements contained in KRS Chapter 224 or 401 KAR Chapters 50 through 63.

Section 11. Safety. (1) Explosive gases. A solid waste site or facility shall not allow the concentration of explosive gases generated by the facility to exceed:

(a) Twenty-five (25) percent of the lower explosive limit for the gases in facility structures (excluding gas control or recovery system components); and

(b) The lower explosive limit for the gases at the facility property boundary.

(2) Fires. A solid waste site or facility shall not pose a hazard to the safety of persons or property from fires. This may be accomplished through compliance with Sections 8 and 9 of this administrative regulation, through the periodic application of daily, interim, or long-term cover materials or other techniques such as, but not limited to, isolation, fire breaks, compliance with local fire codes, availability of fire fighting equipment, and normal fire prevention measures as appropriate.

(3) Access. A solid waste site or facility shall not allow uncontrolled public access, unauthorized vehicular traffic, or illegal dumping of wastes. This requirement to ensure protection of human health and the environment may be met by using artificial barriers, natural barriers, or other methods as appropriate.

Section 12. Public Nuisance. A solid waste site or facility shall not result in a public nuisance because of blowing litter, debris, or other waste or material.

Section 13. Wetlands. A new or expanded solid waste site or facility shall not be located in wetlands.

Section 14. Compliance. A solid waste site or facility shall not violate any requirement of KRS Chapter 224. (16 Ky.R. 1724; 2171; 2346; eff. 5-8-1990; 30 Ky.R. 1343; 1958; 2019; eff. 3-18-2004; Crt eff. 10-9-2018.)